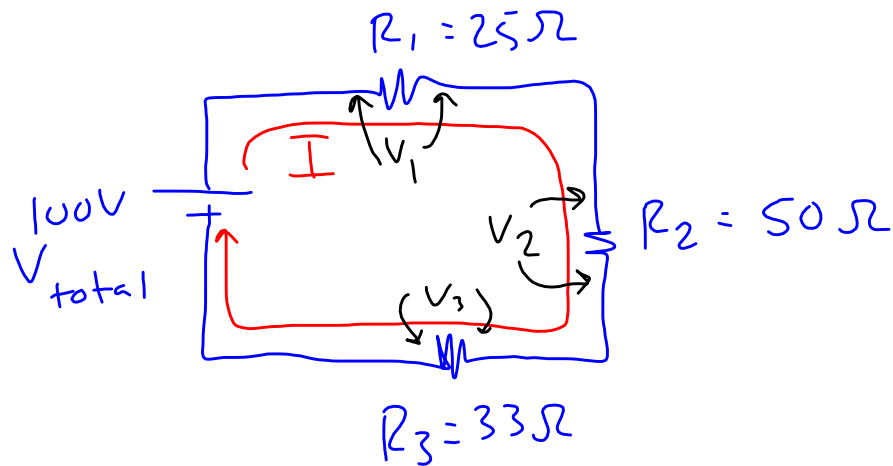


1. Find  $I$ ,  $V_1$ ,  $V_2$ ,  $V_3$



$$\begin{aligned} \textcircled{1} \quad R_{total} &= R_1 + R_2 + R_3 \\ &= 25\Omega + 50\Omega + 33\Omega \\ &= 108\Omega \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad I &= \frac{V_{total}}{R_{total}} \\ &= \frac{100V}{108\Omega} = 0.925A \end{aligned}$$

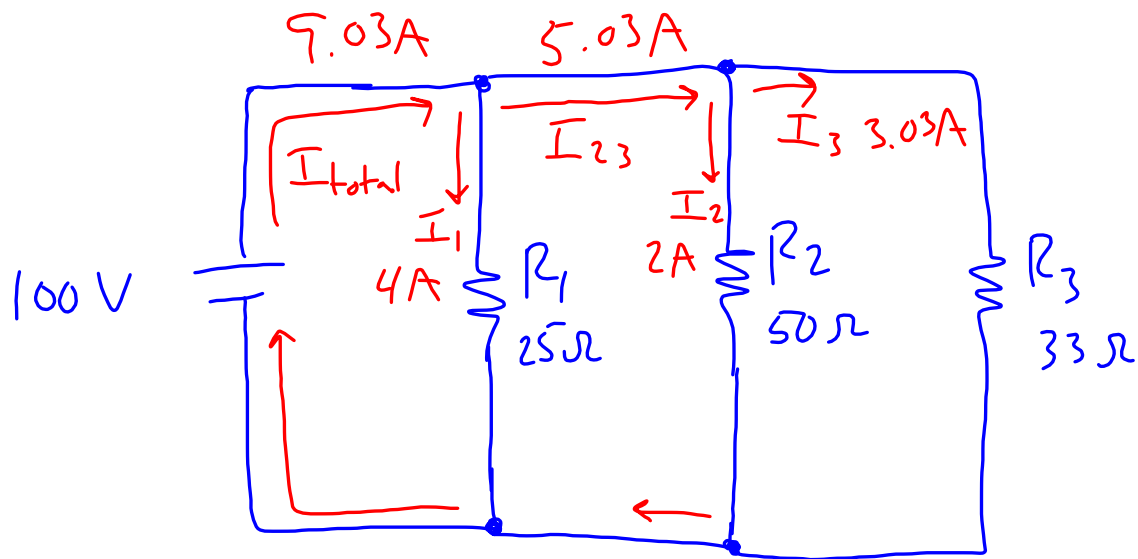
$$\textcircled{3} \quad V_1 = IR_1 = (0.925A)(25\Omega) = 23.13V$$

$$V_2 = IR_2 = (0.925A)(50\Omega) = 46.25V$$

$$V_3 = IR_3 = (0.925A)(33\Omega) = 30.53V$$

$$\textcircled{4} \quad \underline{99.9V}$$

2. Find  $I_{total}$ ,  $I_1$ ,  $I_2$ ,  $I_3$



$$I_1 = \frac{V}{R_1} = \frac{100V}{25\Omega} = 4A$$

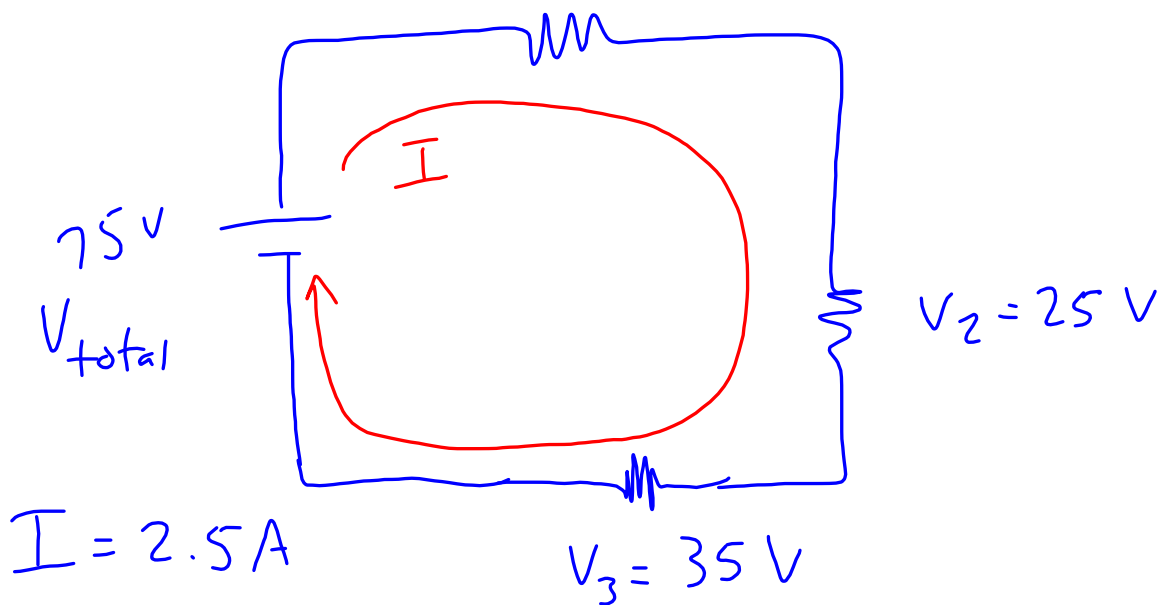
$$I_2 = \frac{V}{R_2} = \frac{100V}{50\Omega} = 2A$$

$$I_3 = \frac{V}{R_3} = \frac{100V}{33\Omega} = 3.03A$$

$$\begin{aligned} I_{total} &= I_1 + I_2 + I_3 \\ &= 4A + 2A + 3.03A \\ &= 9.03A \end{aligned}$$

3. Find  $R_{\text{total}}, R_1, R_2, R_3$

$$V_1 = 15 \text{ V}$$



$$I = 2.5 \text{ A}$$

$$V_3 = 35 \text{ V}$$

$$R_1 = \frac{V_1}{I} = \frac{15 \text{ V}}{2.5 \text{ A}} = 6 \Omega$$

$$R_2 = \frac{V_2}{I} = \frac{25 \text{ V}}{2.5 \text{ A}} = 10 \Omega$$

$$R_3 = \frac{V_3}{I} = \frac{35 \text{ V}}{2.5 \text{ A}} = 14 \Omega$$

$$R_{\text{total}} = R_1 + R_2 + R_3$$

$$= 6 \Omega + 10 \Omega + 14 \Omega$$

$$= 30 \Omega$$